REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-7 are presently pending in this application, Claims 1 and 3 having been amended by the present amendment.

In the outstanding Office Action, Claims 1-3 and 5 were rejected under 35 U.S.C. §103(a) as being unpatentable over EP 1 142 619 (hereinafter "EP '619"); and Claims 4, 6 and 7 were rejected under 35 U.S.C. §103(a) as being unpatentable over EP '619 in view of Fay, III et al. (U.S. Patent 6,040,266).

Claims 1 and 3 have been amended solely for clarification and no new matter is believe to be added thereby. If, however, the Examiner disagrees, the Examiner is invite to telephone the undersigned who will be happy to work in a joint effort derive mutually agreeable language.

Before addressing the rejections based on the cited references, a brief review of Claim 1 as currently amended is believed to be helpful. Claim 1 is directed to a honeycomb filter for purifying exhaust gases and recites "a ceramic block comprising a plurality of rectangular columnar porous ceramic members combined with one another by a sealing material layer, each of the rectangular columnar porous ceramic members having a plurality of through holes extending parallel with one another in a length direction of the ceramic block and separated by a partition wall interposed between the through holes; and a circumferential sealing material layer formed on a circumference portion of said ceramic block, wherein said partition wall functions as a filter for collecting particulates, and on a cross section perpendicular to the length direction of said ceramic block, said sealing material layer includes at least one crisscross portion in which a maximum width L of the crisscross portion

of said sealing material layer is 1.5 to 3 times greater than a minimum width l of said sealing material layer."

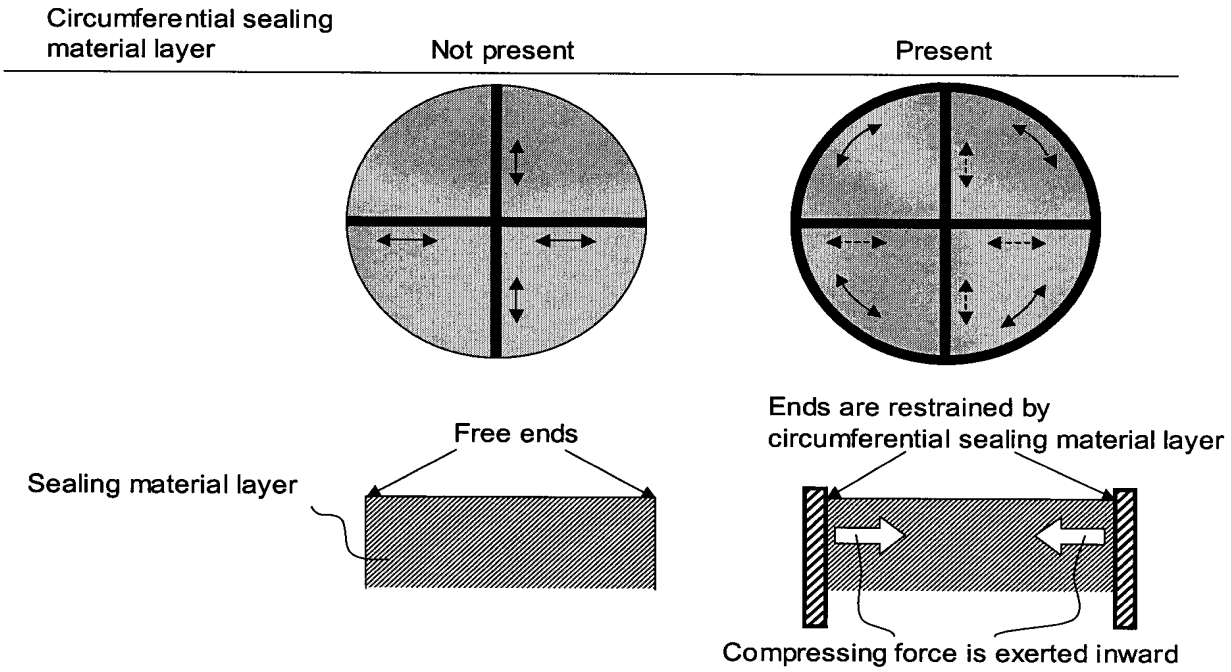
The outstanding Office Action states that "Ohno et al does not teach the maximum width L (mm) of the crisscross portion of said sealing material layer is 1.5 to 3 times greater than the maximum width l (mm) of said sealing material layer" but simply concludes that "[i]t would have been obvious ... to have a maximum width L (mm) of the crisscross portion of said sealing material layer is 1.5 to 3 times greater than a maximum width l (mm) of said sealing material layer, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art." Applicants respectfully traverse as follows.

As discussed previously and in the Background section of Applicants specification, conventional filters of this type are problematic in that an intersection portion of the sealing material layer referred to as a "crisscross section" is likely to suffer from wind erosion that forms large depressions in the crisscross section.[1] As particles accumulate in the depressions, thermal stress results from the purification process, which can damage the filter.[2] Furthermore, when no circumferential sealing material layer is provided in the honeycomb filter, the depth of wind erosion is quite deep and becomes deeper irrespective of L/l. On the other hand, when a circumferential sealing material layer is provided, the wind erosion depth is relatively small, and the depth of wind erosion is dependant on the value L/l. In particular, when the value of L/l is 1.5 to 3.0, the depth (a depression of the crisscross portion) of wind erosion is significantly more shallow. As the depth of wind erosion becomes more shallow, particulates are less likely to accumulate on a wind eroded portion (within depressions).

[1] Applicants' specification at paragraph 8.
[2] Applicants' specification at paragraphs 9-10.

Therefore, heat generation upon the regenerating process in which the particulates are burnt can be reduced, thereby making it possible to prevent cracks of the sealing material layer.

The following figure demonstrates a possible reason why the depth of wind erosion shallows in the case where the circumferential sealing material layer is present.



As seen in the figures to the left, in the case where the circumferential sealing material layer is not present, a sealing material layer that has been heated radially lengthens relatively freely. In contrast, as seen in the figured to the right, when the sealing material layer is formed on the circumferential portion of the ceramic block, a compressing force is exerted inward over the entire honeycomb filter so that the crisscross portion between the sealing material layer can be compressed harder and substantially solidified. As discussed in Applicants' specification, it therefore becomes possible to improve durability of the filter against wind erosion and cracks, and also to strengthen the durability of the filter against

vibration.[3] In this way, the features of "a circumferential sealing material layer" and "a specific numerical range of L/l" synergistically exert the advantageous effect of shallowing the depth of wind erosion.

Therefore, the foregoing claimed combination of features generates a synergistic, unexpected and advantageous effect for the honeycomb filter.

On the contrary, Ohno et al. describes Examples 2-1 through 2-5 (Figs. 8 and 13) where the ceramic filters are comprised of multiple ceramic members but their periphery portions are exposed, *i.e.*, the outer surface 39c of the ceramic filter assembly 39 only has a ceramic smoothing layer 16 made of ceramic material.[4] Furthermore, theses examples correspond to the filters described as Comparative Examples 13 through 19 in Applicants' specification, and the filter in Fig. 13 is believed to correspond to Comparative Examples 1, 3 and 5 in Applicants' specification. These Comparative Examples are clearly shown to be inferior to the filters according to the claimed invention as seen in Tables 1-3. Also, the filters in Figs. 5 and 6 of Ohno et al. simply show that their widths (t1) to be equal in the vertical or horizontal directions. Nowhere does Ohno et al. appear to describe or even suggest the maximum width L (mm) of the crisscross portion of a sealing material layer and its relationship with the maximum width l (mm) of the sealing material layer. It is believed that the only descriptions regarding the sealing layer in Ohno et al. are paragraphs [0045] and [0046] where merely the preferred thicknesses t1 of the sealing layer are described. Therefore, Ohno et al. fails to teach or suggest ""a ceramic block comprising a plurality of rectangular columnar porous ceramic members combined with one another by a sealing material layer ..., wherein ... said sealing material layer includes at least one crisscross

[3] Applicants' specification at paragraph [0042].

[4] See, Ohno et al., paragraph [0102].

portion in which a maximum width L of the crisscross portion of said sealing material layer is 1.5 to 3 times greater than a minimum width l of said sealing material layer" recited in Claim 1, and the structure recited in Claim 1 is believed to be clearly distinguishable and unobvious from Ohno et al.

For the foregoing reasons, Claim 1 is believed to be allowable. Furthermore, since Claims 2-7 depend directly or indirectly from Claim 1, substantially the same arguments set forth above also apply to these dependent claims. Hence, Claims 2-7 are believed to be allowable as well.

In view of the amendments and discussions presented above, Applicant respectfully submits that the present application is in condition for allowance, and an early action favorable to that effect is earnestly solicited.

Respectfully submitted,

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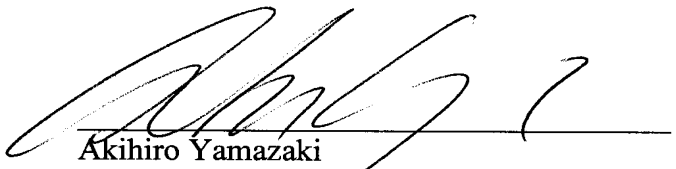
MAIER & NEUSTADT, P.C.



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